THE SPORT PARTICIPATION MOTIVES OF WHEELCHAIR ATHLETES

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Catherine Helen Thomson

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The purpose of the present study was to assess the sport participation motives of wheelchair disabled individuals. In addition, the study sought to establish whether wheelchair disabled athletes are motivated to participate in sport by psychological issues relating to disability.

One hundred and thirty six wheelchair disabled sports participants (108 males and 28 females) with a mean age of 29.92 years who were participating in a range of twenty three sports completed the forty item Sport Participation Reasons questionnaire (SPR) and the Background Information questionnaire. The SPR was based on items taken from the Gill, Gross and Huddleston (1983) Participation Motivation Questionnaire, but also included additional disability related items which were taken from Brasile's (1988b) Participation Reasons Scale and also some items which were based on the literature regarding the psychology of disability and on discussions with people working and participating in the area of disabled sports.

Study participants indicated that their most important motives for sports participation were fun, physical fitness, exercise and challenge. The majority of the additional disability related items were ranked in the middle order, with the highest ranking being at number ten. The top ranked items were similar to findings in previous research.

A factor analysis revealed a nine factor solution, with the factors being labelled Competence, Achievement/Competition, Fitness, Team Orientation, Status, Skills, Tension/Energy Release, Fun/Friendship and Activity. The factor structure was similar to those found in previous research employing the Gill et al (1983) scale, with the exception of the Competence factor which emerged in the present study and contained the majority of the additional disability related items.

It was concluded that sport participation motivation is a multi-dimensional phenomenon and that as well as having participation motives similar to their able-bodied counterparts, wheelchair disabled sports participants also have sport participation motives which are related to psychological aspects of disability. Suggestions are made for directions of future research.

CHAPTER ONE

INTRODUCTION

Sport is an important cultural activity in Western society. It provides us with a value dimension for social identity, social comparison and social status. Cultural expectations regarding success in sport are well established. The socialisation process from childhood on through the lifespan places a great deal of importance on achieving success, high levels of performance and the extrinsic values of sport (Snyder & Spreitzer, 1979). In addition, our education system places an emphasis on competition in all aspects of sporting and academic life. With the increasing numbers of disabled persons participating in sport, it could be assumed that disabled athletes hold sport participation in the same high esteem as their able-bodied counterparts.

Considering the emphasis that society places on sporting activity, it seems reasonable to ask what motivates individuals to participate in sporting activities. Thus far, the participation motivation research has tended to concentrate on able-bodied youth and adult sport participants, with relatively few studies investigating the sport participation motives of wheelchair participants. Moreover, those studies which have investigated disabled populations have tended to employ scales which were designed for use with able-bodied participants, and have not considered participation motives which may be related to the psychological aspects of disability.

This study will investigate the sport participation motives of wheelchair athletes and will endeavour to establish whether psychological issues relating

to disability are motives for sports participation for wheelchair disabled sports people.

The remainder of this chapter will review the literature in the areas of the history of sports for the disabled, the psychology of disability, the therapeutic and rehabilitative value of sports for the disabled and sport participation motivation. Finally, the aims and objectives of this study will be presented.

1.1 The History of Sports For The Disabled

Pre World War Two the prognosis for spinal cord injured individuals was poor. General opinion was that nothing could be done to increase their longevity or quality of life and the sooner these individuals died, the better for all concerned (Guttmann, 1976a). However, the advent of WWII saw a dramatic increase in the number of physically disabled persons. Out of necessity, this increase in the number of spinal injured patients was coupled with a complementary increase in medical knowledge and understanding as to how these individuals should be treated. The improvement in life expectancy was staggering. Before WWII, eighty percent of paraplegics died within three years of onset as a result of paraplegia related complications. Today however, eighty percent of those who become paraplegic have the same life expectancy as the average able-bodied person (Jackson & Fredrickson, 1979).

The 'father' of sport for the physically disabled was neurosurgeon Sir Ludwig Guttmann, the founder and director of the National Spinal Injuries Centre at the Stoke Mandeville Hospital in England. Guttmann recognised the important role that sport could play in the rehabilitation of those left physically disabled by injury or disease. In his book, "Textbook of Sport For The Disabled", Guttmann (1976a) states:

> The medical profession has throughout the centuries recognised the great value of physical exercise and has utilised it in the treatment of disabilities (p. 15).

Guttmann began by experimenting with punchball exercises, darts, rope climbing, skittles and snooker, and the success of these activities led to the development of wheelchair polo as the first competitive wheelchair team sport. In 1948, the first Stoke Mandeville Games for the Paralysed were held in England, with a total of sixteen competitors -14 men and 2 women (Guttmann, 1976a). In 1952, the Stoke Mandeville Games became an international competition, with a team of Dutch archers travelling to England to compete (Jackson & Fredrickson, 1979). The basic principle of the International Stoke Mandeville Games Federation is that both able-bodied and disabled individuals in society should be able to participate in recreational and competitive sporting activities with only minimal changes to the rules of the sport in order to enable them to participate (Jackson & Davis, 1983).

From its humble beginnings, sport for the disabled has continued to flourish. Henschen, Horvat and Roswal (1992) report that in 1989 there were more than three thousand athletes participating in disabled sports in the United States alone. The International Stoke Mandeville Games are now held every four years either before or after the Olympics, in the Olympic city and using the same facilities. Furthermore, there is no longer the strict segregation between able-bodied and disabled sports that once existed. Now there are not only opportunities for different disability groups to compete against each other, but disabled athletes are being integrated into able-bodied sports where they are able to compete on an equal footing with their able-bodied peers (for example in events such as archery and shooting). In events such as the marathon, wheelchair divisions are being included as part of the official program (Steadward, 1990). Finally, the 1994 Commonwealth Games held in Victoria,

Canada were the first Games in which disabled sports were included in this previously able-bodied event.

1.2 The Psychology of Disability

Spinal cord injury has been described as one of the most devastating experiences a person can go through. Not only can this situation be life threatening, but the individual's body integrity is also placed under attack (Guttmann, 1976a). At the moment of injury, the individual's life is transformed. The individual must cope with pain and grieving over his/her loss, changes in mobility and capacity for self-care, alterations in sexual functioning, loss of bladder and bowel control, changes in vocation goals and possible decrease in earning capacity, feelings of helplessness, role reversals within the family, decreased self-esteem, as well as the social stigma of being 'different' (Hohmann, 1975). Thus, it can be seen that the effects of spinal cord injury are tremendous and far-reaching.

The reaction to spinal injury has been likened to that of the mourning process as described by Kubler-Ross (1977). Bracken and Shephard (1980) suggest that the similarity of the reactions in these situations is not surprising as human response to any major loss, be it the loss of a loved one or the loss of limbs is unlikely to vary significantly.

Simplistically, post-trauma reactions may be characterised by denial, anger, depression and (hopefully) acceptance and adaptation (Bracken & Shephard, 1980). Weller and Miller (1977) and Smaill (1982) also identify a further stage - shock - which they believe is the first stage of reaction. Thus, briefly the stages of post-trauma reaction are:

i) Shock: The trauma of physical immobilisation may result in either psychological or physical shock. This is a protective mechanism, usually of fairly short duration (Weller & Miller, 1977).

ii) Denial: This tends to last longer than shock and is a defensive mechanism used by the individual to protect them from, or minimise, the implications of disability. Denial is helpful in the initial stages, but must be slowly relinquished as the individual comes to accept the changes required for living with a disability and to see the possibilities available to them (Weller & Miller, 1977). Denial becomes maladaptive however, if the individual fails to relinquish it and it begins to interfere with treatment or rehabilitation.

iii) Anger: Anger is described by Weller and Miller (1977) as a response to physical or psychological hurt, the individual's perceived unfairness of the injury, and the changes he or she is being forced to make with regards to the self and life in general. This anger may be internalised, resulting in the patient lying quietly in bed, being uncommunicative and withdrawn, or it may be externalised, directed at medical staff, family and friends, blaming them for the situation (Hohmann, 1975).

iv) Depression: This stage tends to follow anger, but may occur at any stage of the process. Bracken and Shephard (1980) contend that depression is so common at this stage that it should be viewed as normal for all patients. Symptoms of depression observed in spinal-injured patients include sadness, loss of energy, introversion of interest, massive self-concern and feelings of worthlessness,

hopelessness or apathy, and unending pain or somatic preoccupations (Gunther, 1971). Weller and Miller (1977) suggest that this depression may be a reflection of the individual's perception of a hopeless and unrewarding life ahead, or guilt regarding their role in the trauma. Furthermore, it has generally been observed that the earlier the onset of depression in spinal-injured patients, and the more active it is, the shorter and more successful is the individual's adjustment to their injury.

v) Acceptance and Adaptation: Acceptance and adaptation can vary across a spectrum from optimal, positive self-actualising to negative, embittered retreat. According to Weller and Miller (1977) success in this stage of recovery generally reflects the inner resources possessed by the patient before the trauma and the type of treatment received. Peters (1975) suggests that in this stage the individual develops a new sense of self as a disabled person. As such, he or she begins to experience satisfaction from new positive experiences, thus enabling him/her to feel good about oneself as a person. Gunther (1971) lists several behavioural signs that this phase of recovery has been entered: a decrease in depressive symptoms, an increase in spontaneity, effectiveness and pleasure with which energy is applied to new rehabilitative tasks and better self-care, for example in grooming and dress.

Coping with one's own reaction to spinal injury and its far-reaching effects on one's life is only one part of the adaptation to spinal injury. The newly disabled (and in fact anyone with a disability, whether it be congenital or acquired) must also learn to cope with the attitudes of wider society towards the disabled.

The disabled comprise a minority group within society (Thomas, 1982; Fine & Asch, 1988) and according to Thomas, they are accorded similar negative treatment to that of other minority groups, such as blacks and homosexuals. This negative view of the disabled has been confirmed by research. A study by Yuker (1977, cited Hanks and Poplin, 1981) found that in response to direct questions, more than 50% of the people in the United States express slightly positive attitudes toward disabled people and indicate that they have sympathetic feelings for them. Yuker also found that many able-bodied individuals view the disabled as being different, and in some ways inferior to, able-bodied persons.

Furthermore, the public perception of the disabled appears to be that they are constantly in need of help and social support. According to Fine and Asch (1988) this perception is not surprising, as traditionally the "handicapped role" has been seen as one of helplessness, dependence and passivity. This cognizance of the disabled is further enforced by the portrayal of the disabled in the media. The general public relies heavily on the media for information and opinions. For the most part, the representation of disability by the media is one of sickness, as disability is generally considered to be a medical issue. The disabled tend to be depicted by the media in one of two ways: either they are dependent on society, for sick people need extra help and care; or they are super-achievers, shown in human interest stories as people who are defying their disability and 'making it' despite the odds (Ruffner, 1990).

In essence, therefore, the trauma of disability involves some major psychological readjustments. Not only must the individual come to terms with what has happened to his or her body and the adjustments which must be made in order to perform the tasks of daily living, but he or she must also

learn to deal with a whole new set of attitudes - those of society towards the disabled - the majority of which are fairly negative.

1.3 The Benefits of Sport For the Disabled

Historically sport for the disabled has been employed in the therapeutic and rehabilitative realms, as evidenced in its conception at the Stoke Mandeville Hospital Spinal Unit. Guttmann (1976a) in his book "Textbook of Sport for the Disabled" calls attention to the fact that:

> Broadly speaking, the aims of sport for the disabled embody the same principles for the disabled as they do for the able-bodied; in addition, however, sport is of immense therapeutic value, and plays an essential part in the physical, psychological and social rehabilitation of the disabled (p. 12).

Today the disabled participate in sport as a leisure or recreational pursuit (Stewart, 1981), and at the other end of the spectrum from rehabilitative sports participants are the elite, highly competitive athletes who put many hours of training into their chosen sport. The benefits of physical activity in the rehabilitation of spinal cord injured individuals cannot, however, be ignored.

A large proportion of the disabled population show lower levels of fitness in comparison to the population at large. The cardiorespiratory fitness and muscle strength of wheelchair users varies widely - some of these individuals are seriously debilitated while others have been found to be on a par with moderately trained able-bodied athletes (Stewart, 1981). A study conducted by Zwiren and Bar- Or (1975) compared the disabled and the able-bodied and found that disabled individuals who were not involved in some form of physical activity were more obese and had reduced cardiorespiratory function in comparison to the general able-bodied population. A contributing factor to the low levels of fitness among the disabled is the fact that many are

employed in jobs which require little in the way of physical effort and which tend to be carried out in one place (Jochheim & Strohkendl, 1973).

Physically, the benefits that the disabled accrue from sporting or fitness activities are much the same as those gained from participation by able-bodied athletes. Sport participation has been shown to increase VO_2 in the disabled (Gass & Camp, 1979; Wicks, Head, Oldridge, Cameron & Jones, 1977; Katz, Adler, Mazzarella & Ince, 1985), improve balance and mobility (Stewart, 1981), improve heart rate and blood pressure, decrease the risks of arterial disease and cardiorespiratory problems (Katz et al, 1985) and to increase muscle strength (Davis, Shephard & Jackson, 1981). With regards to muscle strength, it was estimated by Weiss and Beck (1973) that participation in physical activity after the onset of disability resulted in upper limb strength increasing one hundred percent faster than it would have had only traditional bedside physiotherapy been administered.

These benefits gained from physical activity are invaluable in terms of general health and fitness and adaptation to injury (Stewart, 1981). Exercise enables the individual to make maximum use of his or her remaining functions which makes everyday activities that much easier and more enjoyable (Ryan, Beaver, Jackson, McCann & Messner, 1978). Increased muscle strength means that transfers into and out of the chair (for example when using the bathroom or taking a trip in the car) are easier and less tiring, and also aids in balance (Guttmann, 1976b; Stewart, 1981; Ryan et al, 1978). Further, many disabled individuals confine themselves to the home because the environment presents them with too many barriers (Stewart, 1981), which leads to a cycle of further reduced fitness and restriction of mobility (Jochheim & Strohkendl, 1973; Jackson & Davis, 1983). However, with the increased endurance brought about by physical activity, these environmental barriers are less of a

hindrance. Finally, the greater agility and co-ordination effected by exercise helps build a greater sense of physical control and body confidence (Valliant, Bezzubyk, Daley & Asu, 1985).

Physical benefits aside, sport has been shown to do much to improve the psychological state of disabled individuals. Stewart (1981) suggests that the congenitally disabled (those born with a disability) often miss out on the 'normal' experiences of life, but through sports participation they may be helped in developing socialisation skills and team co-operation, and may also be encouraged to try new experiences. For those with an acquired disability, Stewart (1981) suggests that the aims of sport participation should be to rebuild the 'whole' individual by encouraging participation in activities which were enjoyed before the onset of the disability or to find satisfactory replacements for those activities which are no longer possible.

A number of authors have noted increases in the self-esteem and self-concept of disabled persons after their participation in some form of physical training. A study conducted by Super and Block (1992) with a group of disabled individuals found that athletic participation was positively associated with self-concept and the need for achievement, leading these authors to conclude that participation in physical activity may be therapeutic for patients who present with a negative self-concept or low levels of need for achievement. A further study by Ankenbrand (1972 cited Jackson & Davis, 1983) involved putting two groups of University students (one able-bodied and the other disabled) through an eight week recreational bowling course. At the conclusion of the course it was found that increases in self-concept and self-acceptance were greater for the disabled group than they were for the able-bodied group. Similar results were found by Brinkman and Hoskins (1979) who reported that hemiplegic patients gave more positive self-evaluations at

the conclusion of a twelve week physical conditioning program than they did at the outset. Other authors (eg Sloedefalke, Balk, Ryan & Gale, 1969; Beaver et al, 1976; Katz et al, 1985; Valliant et al, 1985) have found similar results.

Other psychological improvements following participation in physical activity have also been noted. A case study conducted by Katz, Adler, Mazzarella and Ince (1985) examined the effects of a twelve week exercise program on the mood states of a spinal-cord injured man in a rehabilitation hospital. Aside from increased self-esteem, the subject also showed a decrease in somatic preoccupation and negativism - both of which are commonly associated with physical disability. Furthermore, changes in the areas of affective, fluctuating mood states such as tension, vigor and depression were also noted. Elevated mood and a greater satisfaction and happiness with life roles were also noted in disabled athletes in a study by Valliant et al (1985).

The social benefits of sport for the disabled must also be considered. Guttmann (1976a) states:

> The final - and, may I say, the noblest - aim of sport for the disabled person is to help to restore his contact with the world around him; in other words, to facilitate and accelerate his social reintegration or integration (p. 13).

Sport provides the disabled with opportunities to meet and form relationships with their disabled peers. For the newly disabled this is important as they are able to gain support and advice from those who have more experience with disability and who may be able to provide solutions to problems they are having. Moreover, it provides an opportunity for the disabled peer group to redefine deviance, power and self-esteem (Brasile, 1990).

The sporting arena is also helpful in facilitating the integration of the disabled and the able-bodied in a positive atmosphere and can prove to be a useful means for relaunching the disabled into the mainstream of society. Finally, sport for the disabled can benefit both the disabled and the general public by allowing increased public awareness of the athletes' achievements and helping to break down the social stigma attached to disability (Jackson & Fredrickson, 1979; Stewart, 1981; Jackson & Davis, 1983).

1.4 Sport Participation Motivation Literature Review

Given the large numbers of the population who actively participate in sporting activities on a regular basis it seems both reasonable and important to attempt to discover what motivates participants to engage in such activities (Dwyer, 1992). However, despite the large numbers of sporting participants and the fact that an understanding of sport participation motivation is important both theoretically and in its practical application, research in this area has a relatively brief history (Alderman & Wood, 1976; Gill, Gross & Huddleston, 1983; Gould, Feltz & Weiss, 1985; Frederick & Ryan, 1993).

An understanding of what motivates athletes to participate in sport is important for coaches, sport psychologists, service providers, therapists and individual athletes (Gould, & Horn, 1984; Brasile, 1988b). It has been shown that individuals are most motivated when they perceive that the goals they value are both present and attainable in their environment (Spink & Longhurst, 1987). An understanding of what motivates athletes to participate in their chosen activity enables coaches to construct a training environment where major motives are met and thus athletes are more likely to be satisfied with their participation and continue their participation.

In the case of disabled athletes, an understanding of the physical, emotional and social motives for participation by rehabilitative staff may provide a better comprehension of the "...personal, rehabilitative and developmental potentials of such participation" (Brasile, 1988b, p4). Further, a better understanding of the sport participation motives of disabled athletes may aid rehabilitation staff in encouraging sedentary disabled to become involved in sporting activities. Given the literature concerning the benefits of physical activity for the disabled, this would seem to be of the utmost importance.

In general, the results of the sport participation research clearly indicate that participation motivation is a multifaceted construct, with no one motive consistently being rated as the number one motive for participation by sports people. This is true across all age groups, sports and levels of participation. There are however, several motives which are repeatedly identified as being of considerable importance to athletes. These motives include having fun, improving skills and keeping fit.

1.4.1 Disabled Sports Participation Motivation

> Many disabled athletes devote considerable time and energy to their participation in wheelchair sports, and because of this it could be assumed that they derive the same satisfaction and benefit from this participation as do able-bodied athletes. However, there is little empirical evidence that relates specifically to value of participation by disabled athletes and motives for such participation (Brasile, 1988a, p. 16).

A review of the literature reveals only four studies conducted in the area of disabled sport participation motivation. The earliest of these studies was conducted by Brasile (1988a), who investigated the psychological factors that influence participation in wheelchair basketball. An eighteen item Likert questionnaire (using a five point scale) devised by the author was administered to sixty elite wheelchair basketball participants. The motives

ranked by the athletes as being the most important for participation were: opportunities to improve health and fitness, improve ability, I like to win, the excitement of the game, and the enjoyment of team interaction.

In an unpublished doctoral dissertation, Brasile (1988b) compared the sport participation motives of disabled and able-bodied track and field athletes and basketball players using a twenty six item Participation Reasons Scale (PRS) which he had developed. With all the groups considered together (able-bodied basketball players, wheelchair basketball players, able-bodied track and field athletes and wheelchair track and field athletes) it was found that athletes placed high importance on intrinsic, task-oriented motives such as 'it offers me an opportunity to improve my performance at the activity' and 'it gives me a chance to test myself against my own standards'. These were the top ranked motives by all of the groups, followed by 'it provides an opportunity for exercise', 'for the excitement of the activity' and 'I enjoy the team interaction of the sport'. It was found that disabled and able-bodied athletes reported significantly different mean scores on seven of the twenty six sport participation reasons. However, Brasile (1988b) cautions that although there appears to be initial differences between the two groups, a rank-order correlation between them shows that there are also considerable similarities.

A factor analysis of the data presented a five factor solution, with the five factors being labelled fitness incentives, ego incentives, task incentives, social integration incentives and social affective incentives. The results of an ANOVA procedure suggested that the disabled athletes' participation motives differed from those of the able-bodied athletes on two of the five factor scales, with the disabled athletes placing more emphasis on the fitness incentives and the able-bodied placing more emphasis on the ego incentives (such as 'it gives me a chance to gain recognition and rewards' and 'I like to win').

However, when a regression analysis controlling for the effects of several mediating variables was performed, these differences were no longer evident, and instead the two groups differed on social integration incentives.

Brasile (1988b) concludes that there appears to a general similarity between able-bodied and disabled athletes with regards to sport participation motivation. The results of the regression analysis showed that the only difference between the two groups was in the social integration incentives, with motives such as being with friends, meeting new people, travelling and pleasing others being more important to the wheelchair participant. As with previous studies (Gill et al, 1983; Gould et al, 1985; Klint & Weiss, 1986; Brodkin & Weiss, 1990) it was concluded that sport participation motivation is a multi dimensional phenomena and that both disabled and able-bodied athletes have multiple motives for participation.

A further study of the sport participation motives of wheelchair athletes was conducted by Fung (1992). Fung's study was a cross-cultural comparison of the motives for participating in wheelchair sports involving athletes from the United States, Great Britain and Japan. The instrument used in this study was the Michigan Swimming Questionnaire (Gould et al, 1985) which is an adaptation of the Gill et al (1983) Sport Participation Questionnaire. The subjects (n=90) were volunteers and had all participated in the 1988 Paralympics held in Seoul. Significant *F* ratios were found for the main effect of countries for the motive factors of team atmosphere, excitement and challenge. More specifically, it was found that the athletes from Great Britain and the United States placed greater importance on the fitness factor than did the Japanese athletes and all three countries differed significantly on the factor of team atmosphere, with the United States athletes rating it as being more important.

An analysis of the ranking of each motive factor revealed that fitness was the factor ranked as being most important by the Great Britain and United States male and female athletes. Japanese male athletes on the other hand cited skill development as their most important motive factor, while the female Japanese athletes rated skill development and friendship as being first equal in importance (Fung, 1992).

Finally, a study conducted by Furst, Furr and Megginson (1993) examined the sport participation motives of twenty five spinal-cord injured individuals participating in triathlons. The scale employed in this study was devised by the authors and contained both open and closed questions. The athletes in this study stated that fun was their primary reason for participation, followed by physical development and increased health, the love of competition and socialising. This finding is consistent with the findings of previous researchers (for example, Gill et al, 1983; Gould et al, 1985). The primary influences that encouraged spinal injured athletes to exercise regularly post-rehabilitation were also investigated in this study. It was found that seventy seven percent of athletes listed other disabled athletes as their number one influence. Moreover, other disabled athletes influenced thirty three percent of the study participants to train for a specific sport. It would appear, therefore, that other disabled athletes can have considerable influence in encouraging disabled non-athletes to become involved in physical activity. Furthermore, newly disabled individuals should be exposed to disabled sports participants as soon as possible after injury in order to increase the likelihood that they themselves will become physically active.

In order to properly understand the sport participation motives of disabled athletes it is necessary to also consider the participation motivation research

in the areas of both youth and adult sports. Youth sports participation motivation must be examined because the Sport Participation Questionnaire (Gill et al, 1983) was designed for use with able-bodied youth athletes but has also been employed in studies of disabled adult sports participation motivation (Fung, 1992) and in able-bodied adult sport participation motivation research (Flood and Hellstedt, 1991; Dwyer, 1992). Furthermore, adult sports participation motivation must also be considered as Brasile (1988b) found there to be no differences in the participation motives of disabled and able-bodied adult sports participants.

1.4.2 Youth Sport Participation Motivation

The majority of the earlier work in the sport participation motivation area has focused on youth sports (eg Alderman & Wood, 1976; Sapp & Haubenstricker, 1976; Gill et al, 1983; Gould et al, 1985; Wankel & Kreisel, 1985; Klint & Weiss, 1986). These studies indicate that young athletes participate in sport for a number of reasons with fun, skill development, challenge and fitness being among the most frequently cited motives (Frederick & Ryan, 1993).

A study conducted by Gill, Gross & Huddleston (1983) investigated the sport participation motives of children aged from 8-19 years who were attending a summer sports camp. Gill et al (1983) designed and administered a thirty item self-report Sport Participation Questionnaire (SPQ) which required participants to rate each item on a three point Likert scale. This questionnaire has been used in a number of consequent participation motivation studies by various authors with some minor alterations (eg Gould et al, 1985; Klint & Weiss, 1986; Spink & Longhurst, 1987; Wankel & Sefton, 1989; Brodkin & Weiss, 1990; Stern, Bradley, Prince & Stroh, 1990; Flood & Helstedt, 1991; Dwyer, 1992; Fung, 1992).

A factor analysis revealed an eight factor solution placing items into the following factors: achievement/status motivation, team-oriented reasons, fitness, energy release, miscellaneous reasons, skill development, affiliation orientation and fun. Skill improvement was rated as the most important motive by both males and females, with a combined sample rating having fun, learning new skills, challenge and being physically fit as the next most important motives. The authors concluded that the most notable finding from the study was the emphasis placed on skill development (Gill et al, 1983).

Gould, Feltz and Weiss (1985) used a modification of the Gill et al (1983) PMQ to identify the motives of competitive youth swimmers aged from 8-19 years. Factor analysis revealed a seven factor solution, placing items into achievement/status, team atmosphere, excitement/challenge, fitness, energy release, skill development and friendship groupings. Factors rated as most important by the participants were having fun, fitness, team atmosphere, skill development and excitement/challenge. Least preferred motives were travel, parents or friends wanting them to play and energy release.

A further study, conducted by Klint and Weiss (1986) examined the motives of recreational, competitive and former youth gymnasts for participating in and/or discontinuing gymnastics. The competitive group indicated that they were most highly motivated by competence, fitness and challenge reasons. The recreational gymnasts on the other hand, rated competence, fitness, fun and situational (such as using the equipment) as being the most important reasons. Furthermore, the most frequently reported reason for the competitive gymnasts was winning, but this reason was not listed among the highest reported reasons for participation. As with earlier studies into youth

sport participation motivation it was found that children have multiple motives for sport participation.

Brodkin and Weiss (1990) conducted the first study to consider the role of cognitive-developmental level as a factor influencing participation motivation in sports by examining developmental differences in motives for participating in competitive swimming across the lifespan. One hundred subjects were placed into six age groups ranging from young children (6-10 years) to older adults (60-74 years). The results of the study indicated that different developmental groups have multiple reasons for participation. Significant group differences were found for social status, significant others and fun. The high school/college group (15-22 years) found social status to be more important than the other groups; significant others' influence was more important for the two youngest groups (6-9 years and 10-14 years); and finally, fun was found to be a more important motive for participation for younger children and older adults. Because of these significant differences between the age groups it was concluded that developmental differences in sport participation motivation do exist.

In summary, we can derive a number of conclusions from the research into youth sport participation motives. First, it can be said that young athletes have a wide range of motives for participating in sports - these motives include among others, having fun, seeking affiliation, improving existing skills and learning new ones, and winning. Furthermore, although young athletes identify a wide range of motives as being applicable to them, those which are consistently rated as being the most important are increasing skills, having fun, being with friends, making new friends, experiencing thrills/excitement, achieving success/ winning and developing fitness (Gould & Horn, 1984).

1.4.3 Adult Sport Participation Motivation

Despite a plethora of studies investigating youth sport participation motivation, there have been relatively few investigations as to what motivates adults to participate in sports.

A study conducted by Martindale, Devlin and Vyse (1990) investigated what motivates students to participate in sports at college level. The study included athletes participating in a wide variety of sports who were aged from 18 to 22 years and were participating at different levels (college, club/intramural and recreational).

It was found that the most important motives across all levels of participation were skill improvement, health/fitness and achievement. Results indicated that the college athletes were higher on competition and social motives than the recreational athletes. However there were no robust discriminations between the motives of the college and the club/intramural athletes. Finally, it was found that the college and the club/intramural athletes placed more emphasis on the competitive aspects of sport than did the recreational athletes (Martindale, Devlin & Vyse, 1990).

A study by Battista (1990) investigated the personal meaning that adults attach to their participation in racquet ball. Subjects (n=98) identified enjoyment as their most important motive for participation followed by competition, challenge, health/fitness and self-satisfaction. The identification of enjoyment as the most important motive suggests that participation is intrinsically valued by participants and that they derive pleasure from their participation. Friendship was another motive that was highly valued by the racquet ball participants in this study. Battista (1990) points out that this

supports the findings of other researchers (Mathes & Battista, 1985; Snyder & Spreitzer, 1983) and suggests that personal and continued friendships are important motives for maintaining adult participation on sports.

Flood and Hellstedt (1991) employed an adaptation of the Gill et al (1983) PMQ in order to identify the participation motives of 161 male and female athletes. The participants rated staying in shape, skill improvement, winning, challenge, excitement and competition as their most important motives in that order.

In an attempt to examine the internal structure of Gill et al's (1983) Participation Motivation Questionnaire (PMQ) and assess its suitability for measuring adult's motives for participating in physical activity, Dwyer (1992) administered the PMQ to 185 university students. Dwyer (1992) altered the PMQ slightly by employing a five, rather than a three, point Likert scale as used by Gill et al (1983), in order to allow for a greater variability in responses. A principal components analysis with a varimax rotation revealed a six factor solution (the same analysis by Gill et al (1983) yielded an eight factor solution and Gould et al (1985) arrived at a seven factor solution using the same analysis on the PMQ) comprising twenty items.

Results of Dwyer's (1992) revealed that the most important sport participation motives for university undergraduates were to maintain fitness, have fun, experience excitement and challenge, and to acquire and improve sports skills. A comparison of these results with those of the youth research suggests that adult and youth sport participants have similar motives for participation (Dwyer, 1992). Finally, Dwyer concluded that the internal structure of the PMQ (Gill et al 1983) completed by undergraduates was generally similar to the internal structure of the questionnaire used in previous youth research

and was a promising measure for use in assessing the sport participation motives of adults.

1.5 Problems With The Literature

As mentioned previously, disability carries with it a number of psychological considerations. The individual must cope with the personal crisis pertaining to what has been lost and the changes this will require to his or her life. Once rehabilitation has been completed and the person has learnt to deal with the problems their disability poses for daily living, and has (hopefully) come to terms with the impact the disability will have on their life, they are ready to face the world. This in itself presents a problem as the individual may have come to terms with their disability, but society does not deal with disability particularly well. As Brasile (1988b) states, "The disability is not so much the handicapping condition as the stigma that accompanies it" (p. 40).

Thus far, the sport participation motivation literature on disabled athletes has not addressed the extent to which society's perceptions of, and attitudes towards, disability and indeed, the individual's own perceptions of their disability play a part in the motivations of the disabled to participate in physical activity. Fung (1992) used the Gill et al (1983) PMQ scale (which was designed for use with able-bodied youth athletes) in her research in order to establish the sport participation motives of elite wheelchair athletes. Dwyer (1993) later confirmed that this scale was suitable for use on adult populations, however the scale does not contain any items which may be considered to address disability related issues. Brasile (1988a, b) designed his own scale for assessing the sport participation motives of disabled athletes. In his second study, Brasile, (1988b) compared the sport participation motives of able-bodied and disabled athletes, but once again, the scale didn't contain any items which directly referred to disability related motives. Thus, the fact that Brasile

(1988b) concludes that there appears to be no differences between the motives of able-bodied and disabled athletes may be misleading.

It is interesting that the research has not investigated this area, as several qualitative studies have suggested that societal and personal attitudes towards disability may in fact be motivating factors for disabled sport participation. A study by Sherrill (1985) discusses selected social and psychological dimensions of sport for disabled athletes and is based on interviews with over three hundred elite cerebral palsied and blind athletes, ranging in age from 17-60 years.

Sherrill (1985) stated that the majority of athletes have experienced some form of stigmatisation (that is, special treatment given to people who are perceived as being 'different') at some time or another. Many of the athletes in the study expressed that they saw sports as a way of fighting these attitudes and gaining acceptance within the community. This attitude is summed up in the following statement:

> A lot of people feel sorry when they see a disabled person. But when they see what a disabled person can do in sports, it helps them understand what he [she] can do in everyday life - things like crossing a street, entering a store, doing a job . . . People are MAKING us disabled just by not giving us a chance to extend our abilities. This is our chance to show what we can do. - Deane Houle, Cerebral palsied weight lifter (Rosner, 1984, cited Sherill, 1985, p. 22).

It is also suggested in Sherrill's (1985) article that international sporting events for the disabled increase the visibility of many psychosocial problems and thus make some inroads into improving the public's attitudes toward people with disabilities by broadening the public's consciousness of sports potential. Another qualitative study of disabled athletes was conducted by Hutzler (1990). Hutzler's study focused on rehabilitative sports, and is based on the

concept of empowerment. The basic concept of empowerment is 'that our aim should be to enhance the possibilities for people to control their own lives" (Rappaport, 1981, cited in Hutzler, 1990, p. 44). A further premise of the concept of empowerment is that learning situations must be sought which provide access to resources and which aid individuals in developing new competencies. Thus, according to Hutzler (1990):

> The application of empowerment ideology in rehabilitation would suggest a strategy in which the individual acquires control over personal and environmental resources in order to provide competencies usually deprived through disability and handicap (p. 44).

Hutzler's study involved using the qualitative methodology of analytic injunction to study fifteen disabled athletes participating in a variety of sports in order to establish whether "physical activity and sports can be considered a vehicle for empowerment of physically disabled persons" (Hutzler, 1990, p.44). It was found that athletes use sports to help restore physical function and make daily life easier. As one athlete put it:

> In sports you learn to handle your wheelchair and if you can handle your wheelchair, you can handle your daily life (p. 45).

Functional benefits aside, athletes also stated that the mastery of difficult movement tasks brought them emotional and cognitive benefits. One athlete, who backpacked in his wheelchair alone across South-East Asia reported that the experience had made him feel less handicapped - having to find solutions to problems such as getting on a crowded bus meant that he had to act as a traveller, not a disabled person (Hutzler, 1990).

As in previous studies (for example Sloedefalke et al, 1969; Ryan et al, 1978; Brinkman & Hoskins, 1979; Katz et al, 1985; Valliant et al, 1985; Super & Block, 1992), the athletes in Hutzler's (1990) study reported that sports aided in

developing self-concept and self-confidence, as evidenced in the following quotes:

> I consider sports as something which gave me personally a great deal of confidence. Naturally, a disabled person seeks corners so as not to be mentioned and so as not to get hurt, because he is weak. But if you engage in sports and get into competition and achievements, and you prove to yourself that you are valuable, then you say, 'I am strong, strong in my own areas' (p. 45).

and:

> The speed you achieve with the help of a racing wheelchair makes you feel *equal* while normally you creep after everybody (p. 45).

Finally, athletes also cited sports as a vehicle for gaining social acceptance.

> Normal society learns to know you *as you represent yourself.* If you don't feel unfortunate and you do everything by yourself, then they stop feeling pity for you (cited in Hutzler, 1990, p. 47).

> I believe they treat a person the same way he projects himself (cited in Hutzler, 1990, p. 47).

Using wheelchair road racing as a case study, Brandmeyer and McBee (1985) sought to establish whether or not participation in athletic activity by the disabled can aid in the destigmatisation of physical disability. The authors suggest that sporting victories bring with them prestige, which in turn provides successful athletes with both athletic and social invitations. It is therefore suggested that those with physical disabilities have turned to sport not only for therapeutic reasons, but also as a means of redressing their prestige deficits (Brandmeyer & McBee, 1985).

In recent years, there has been a move towards the integration of wheelchair road races into able-bodied competition, with the disabled athletes competing in a different category, but still racing alongside their able-bodied counterparts. Brandmeyer and McBee (1985) believe that this situation provides disabled

athletes with several benefits. First, integrated competition enables disabled athletes to develop a sense of community with able-bodied participants. The able-bodied athletes in turn come to appreciate the athletic abilities of disabled athletes through the exposure to them offered by integration. Finally, sharing the road as fellow athlete allows able-bodied athletes the opportunity to break down the usual first impressions of the disabled and provides a common ground to aid in overcoming the discomfort and embarrassment which can hinder the development of relationships with those who have not previously been perceived as 'normal'.

In conclusion, the combined results of these studies suggest that disabled athletes participate in sport for reasons other than just physical fitness. They also suggest that the possession of a disability and the implications for that disability on daily living and on the way the disabled are perceived by society may be related to disabled athletes' reasons for sport participation.

A further problem in the literature pertaining to disabled sport participation motivation is that it tends to be both sport and participation level specific - Fung (1992) concentrated on elite track and field competitors, Brasile's (1988a, b) samples consisted of elite and competitive basketball track and field athletes, and Furst et al (1993) studied the participation motives of disabled triathletes. Such sport and participation level specific studies mean that one has to be wary of generalising the results to other sub-populations of the disabled sporting population.

1.6 The Present Study

The main focus of the present study is to establish the sport participation motives of wheelchair disabled athletes, using the Gill et al (1983) Participation Motivation Questionnaire (PMQ). In addition, however, the

study also attempts to establish whether or not disabled athletes are motivated to participate in sport by certain psychological issues relating to disability. To investigate this possibility, additional questions concerning psychological issues related to disability were added to the Gill et al (1983) scale. The additional questions were based on the literature and on discussions with people working and participating in the area of disabled sports. The final scale was entitled Sport Participation Reasons (SPR).

To increase the generalisability of the study results, a random sample of the wheelchair disabled sporting population throughout New Zealand was conducted. This makes the study unique as it is the first study of the sport participation motives of New Zealand wheelchair disabled athletes. Furthermore, it is also the first study in this area to include a wide range of sports and participation levels.

The present study has two main research questions:
Research Question One: What is the relative importance that wheelchair athletes place on reasons for participating in their chosen activity? That is, when presented with a list of participation reasons, on which reasons will the respondents place the most importance? Of particular interest is how the additional 'disability related' motives are ranked in relation to the original items of the Gill et al (1983) PMQ.

Research Question Two: Are there any identifiable underlying patterns in the athletes responses to the Sport Participation Reasons scale? That is, when a factor analysis is performed on the athletes' responses to the SPR, do any identifiable factors emerge? More specifically, do the additional questions group together, do they distribute themselves among other factors, or do they render the factor solution nonsensical?

1.7 Chapter Summary

Sport is an important cultural activity in our society. For the physically disabled, sport plays an important role in their physical, psychological and social rehabilitation. Given the important role that sport can play in the rehabilitation of the disabled, and the fact that many individuals continue their sports participation after the completion of their rehabilitation, it seems important to establish what motivates wheelchair disabled athletes to participate in physical activity. To date little research has been conducted in this area.

CHAPTER TWO

METHOD

The following chapter contains a description of the methods and procedures employed in this study. There is a description of the study sample and of the questionnaires used in the study. The data collection procedure is detailed and the techniques used for data analysis are discussed.

2.1 Subjects

The subjects in this study were 136 male (n=108) and female (n=28) athletes participating in wheelchair sports throughout New Zealand. The participants were aged from 9 to 72 years with a mean age of 29.9 years.

Subjects participated in a number of sports, the most common of these being track and field (n=29), wheelchair basketball (n=27), quad rugby (n=22), swimming (n=14) and wheelchair tennis (n=8). Other sports participated in were road racing, archery, shooting, skiing, sailing, weight/power lifting, pool/snooker, badminton, golf, bowls, ten pin bowling, karate, motor sport, fishing, dog obedience, blow darts and electric wheelchair hockey. Subjects' level of participation in these sports ranged from the novice or recreational athlete through to the elite international competitor.

2.2 Questionnaires

Two questionnaires were used in this study:

i) Background Information (see appendix 1)

ii) Sport Participation Reasons (SPR) (see appendix 2)

The background information questionnaire was designed by the researcher to obtain selected demographic, personal and activity-specific information from

the participants. It included questions regarding type of disability, age of onset, sports participated in, level of participation, years of participation, able bodied sport participation, age, gender and culture. Information gathered from this questionnaire was used to describe the respondent population. A summary of the information gathered is presented in Table 1.

Table 1: Summary of Sample Characteristics.

	Mean	High	Low
Age of Respondents			
Male	30.41	72.0	9.0
Female	28.00	49.0	10.0
Group	29.92	72.0	9.0
Years of Sport Participation			
Male	7.59	40.0	1.0
Female	5.67	20.0	1.0
Group	7.19	40.0	1.0
	Total	**% of Sample**	
Sex			
Male	108	79.4	
Female	28	20.6	
Type of Disability			
Traumatic	84	61.8	
Congenital	52	38.2	
Sport Participated In			
Track & Field	29	21.3	
Basketball	27	19.9	
Quad Rugby	22	16.2	
Swimming	14	10.3	
Tennis	8	5.9	
Other[1]	36	36.4	
Level of Participation			
International	42	30.9	
National	35	25.7	
Competitive	28	20.6	
Recreational	30	22.1	

[1] Other=road racing, archery, shooting, skiing, sailing, weight/power lifting, pool/snooker, badminton, golf, bowls, ten-pin bowling, karate, motor sport, fishiing, dog obedience, electric wheelchair hockey, blow darts.

The Sport Participation Reasons (SPR) questionnaire is a self-report instrument on which the respondents are required to rate the importance of forty reasons for participating in sport on a 5 point Likert scale, where 1= not at all important and 5= very important. A 5 point scale was chosen over a 3 point scale (as used by Gill et al, 1983 and Gould et al, 1985) in order to allow for a greater variability in responses (Dwyer, 1992).

The SPR items were taken from three sources:

i) The Participation Motivation Questionnaire (PMQ) (Gill, Gross & Huddleston, 1983)

ii) Participation Reasons Scale (PRS) (Brasile, 1988b)

iii) based on information gathered from the literature and discussions with people working and participating in the area of wheelchair sports.

The PMQ (Gill et al, 1983) comprises thirty statements pertaining to reasons for sports participation which participants are asked to rate items on a 3 point Likert scale where 1= very important and 3= not at all important. This scale was originally designed to measure the sport participation motives of children, however, a study by Dwyer (1992) assessed the suitability of the PMQ (Gill et al, 1983) for measuring the sport participation motives of adults and concluded that the PMQ "...is a promising measure for use among adults" (Dwyer, 1992, p288).

The PMQ (Gill et al, 1983) was selected because it was employed in the most recent investigation of the sport participation motives of wheelchair athletes, conducted by Fung (1992). Fung (1992) notes that the PMQ was originally developed for use with able bodied youth athletes and was used in her study due to a lack of any other available published scale. The use of the scale is

justified, Fung (1992) believes, because previous studies (for example Mastro & French, 1985; Monazzi, 1982) have shown that disabled and able bodied athletes possess similar psychological attributes and thus there is reason to believe that the PMQ (Gill et al, 1983) could be useful for the study of athletes with disabilities.

The second source of items contained in the SPR was the Participation Reasons Scale developed by Brasile (1988b) to measure the sport participation motives of adult able bodied and disabled athletes. The PRS (Brasile, 1988b) consists of twenty six items rated on a 5 point Likert scale. The majority of the items contained in the PRS (Brasile, 1988b) address the same issues as items in the PMQ (Gill et al, 1983) but are worded in a slightly different manner. However, the PRS (Brasile, 1988b) contains some items which are not included in the Gill et al (1983) scale, and these items were included in the SPR scale which was employed in the present study. Items taken from Brasile (1988b) and included in the SPR were: 'it offers me the opportunity to be independent'; 'it gives me a chance to test myself against my own standards'; 'it gives me the opportunity to compete against others successfully'.

The Gill et al (1983) PMQ was selected over Brasile's (1988b) PRS as it has been used in a number of studies by various researchers (Gill et al, 1983; Gould et al, 1985; Klint & Weiss, 1986; Spink & Longhurst, 1987; Wankel & Sefton, 1989; Brodkin & Weiss, 1990; Stern, Bradley, Prince & Stroh, 1990; Flood & Helstedt, 1991; Dwyer, 1992; Fung, 1992), whereas the PRS has only been used in two studies, both conducted by Brasile (1988a,b).

Further items included in the SPR which were additional to the items from Gill et al's (1983) PMQ were based on information gathered from the literature and on discussions with people working and participating in the area of

wheelchair sports. These items were: 'it offers me the opportunity to be recognised for what I can do, rather than what I can't do'; 'I want people to see past my disability'; 'I want to be perceived as an active member of society'; 'I want to prove to others that I am capable'; 'I want to prove to others that I am capable'; 'I want to improve/increase my mobility'; 'I want to improve my wheelchair skills'; 'I want to be able to do something I did when I was able bodied'.

2.3 Pilot Study

In order to check the comprehensibility of both the PMQ and the Background Information questionnaire, a pilot study was conducted. Thirty questionnaires were distributed to wheelchair rugby and basketball players at Burwood Hospital in Christchurch (Burwood has a specialised spinal unit which deals with traumatic spinal injuries) on a practice night. Athletes were asked to complete the questionnaires and return them the following week at practice with any comments they wished to make regarding the questions asked, the layout and so forth.

Of the thirty questionnaires handed out, twelve were returned. From the feedback provided by respondents, minor changes were made to the Background Information questionnaire. The changes mainly took the form of re-ordering some of the questions so that the questionnaire was easier to follow.

2.4 Procedure

The questionnaires were distributed via two organisations. Initially, Parafed (New Zealand Paraplegic and Physically Disabled Federation Inc.) were contacted with the aim of obtaining a copy of their mailing list of athletes for sampling purposes. However, due to limitations imposed by the Privacy Act

(1993), Parafed was unable to provide a mailing list of their members. Instead, the questionnaires were distributed by Parafed with a newsletter published by the organisation.

Of the sixteen hundred people on the Parafed mailing list, only an approximated two hundred were actively participating in wheelchair sports. However, because of the impossibility of identifying those two hundred n the mailing process of the newsletter, questionnaires were sent to all names on the mailing list with a qualifier on the cover letter (see appendix 3) requesting that anyone participating in wheelchair sports should read the following information. Participants were requested to complete the enclosed questionnaires and return them at their earliest convenience in the Business Reply Post envelope provided.

A further thirty questionnaires were distributed through the Christchurch CCS recreation program by the program co-ordinator. These questionnaires were also returned by Business Reply post.

Returned questionnaires were coded and data entered for statistical analysis. Of the 140 questionnaires received, 6 were incorrectly completed and were not retained for further analysis.

2.5 Data Analysis

Data was analysed using the SPSSx for windows statistical analysis package, version 6.0. Specific data analysis used in this study are as follows:

Descriptive Statistics. Appropriate descriptive statistics, including frequencies, means, standard deviations, ranges and percentage distributions were used to describe subject characteristics.

Factor Analysis. To investigate if any empirically identifiable underlying patterns existed in the athletes' responses to the SPR a factor analysis was carried out on the data.

Research Question One: What is the relative importance respondents place on each reason for participation?

In this analysis, the mean score and standard deviation for each item in the SPR was calculated. The mean scores were then used to place the items in rank order from the most important to the least important.

Research Question Two: Are there any empirically identifiable underlying patterns in the athletes' responses to the SPR?

In an attempt to empirically identify underlying patterns in the athletes' responses to the SPR, a factor analysis was conducted.

In keeping with previous research (Gill et al, 1983; Gould et al 1985; Dwyer, 1992) a principal components analysis with an orthogonal varimax rotation was performed in the 136 athletes' responses to the SPR. A .40 cut-off criterion for the factor loadings (that is, the size of the correlations between the items and the factors that was regarded as being meaningful) was specified. To estimate the number of factors to extract, the criterion of eigenvalues greater than or equal to one was used. The resulting factors were then examined for psychological meaning.

2.6 Chapter Summary

The participants in this study were male and female athletes participating in a variety of wheelchair sports. Participants completed the Background Information and Sport Participation Reasons questionnaires, which were posted to athletes via Parafed as it was not possible to obtain a mailing list so as to contact athletes directly.

To establish the relative importance athletes place on reasons for participation means and standard deviations of responses to the SPR were calculated. To identify possible under lying reasons for participation a factor analysis was conducted. Chapter three presents the results of the data analysis.

CHAPTER THREE

RESULTS

This chapter presents the results of the analyses of participant responses to the Sport Participation Reasons (SPR) questionnaire. Included in this chapter are the mean rankings of the items contained in the SPR, a factor analysis of the SPR and the factors resulting from the factor analysis. Analyses are presented for each research question.

3.1 Research Question One: What is the relative importance respondents place on each reason for participation?

The study participants responded to each item contained in the SPR using a five point Likert scale which ranged from 1, 'not at all important', to 5, 'very important'. Using this scale, respondents indicated the importance of each reason for their own participation. Table 2 presents the mean, standard deviation and rank for each participation reason.

Table 2: Sport Participation Reasons Questionnaire (SPR): Ranks, Means and Standard Deviations For Total Study Sample (n=136).

Q#	Question	Rank	M	SD
38	I like to have fun	1	4.51	0.82
31	I want to be physically fit	2	4.38	1.01
20	I like to get the exercise	3	4.24	1.01
34	I like the challenge	4	4.12	1.01
7	I want to stay in shape	5	4.12	1.18
1	I want to improve my skills	6	4.10	0.96
9	I like the excitement	7	3.93	1.06
11	It offers me the opportunity to be independent	8	3.90	1.32
26	I like to compete	9	3.86	1.25
28	I want to improve/increase my mobility	10	3.85	1.35
11	It offers me the opportunity to be recognised for I can do, rather than what I can't do	11	3.82	1.38
40	It gives me a chance to test myself against my own ideals	12	3.81	1.19
21	It gives me the opportunity to prove that I can compete against others successfully	13	3.81	1.24
16	I like to do something I'm good at	14	3.80	1.23
10	I like the teamwork	15	3.75	1.16
23	I like the team spirit	16	3.72	1.17
13	I want to learn new skills	17	3.72	1.15
15	I like to meet new friends	18	3.70	1.08
33	I want to prove to myself that I am capable	19	3.69	1.32
30	I want to go on to a higher level	20	3.62	1.45
8	I want to be percieved as an active member of society	21	3.56	1.39
4	I want people to see past my disability	22	3.54	1.59
22	I like to have something to do	23	3.53	1.36
29	I like being on a team	24	3.50	1.26
2	I want to be with my friends	25	3.47	1.27
19	I like the rewards	26	3.44	1.30
18	I want to improve my wheelchair skills	27	3.43	1.46
14	I want to prove to others that I am capable	28	3.38	1.46
25	I like to get out of the house	29	3.35	1.47
3	I like to win	30	3.25	1.28
6	I like to travel	31	3.19	1.37
39	It offers me the opportunity to use good equipment	32	2.39	1.27
17	I want to release tension	33	2.78	1.44
5	I want to get rid of energy	34	2.74	1.39
35	I like the coaches or instructors	35	2.73	1.32
36	I want to be able to do something I did when I was able-bodied	36	2.71	1.59
27	I like to feel important	37	2.68	1.33
37	I want to gain status or recognition	38	2.48	1.34
32	I want to be popular	39	2.39	1.27
12	My parents or close friends want me to play	40	2.07	1.33

For the total sample, having fun, physical fitness, exercise, challenge, staying in shape, and improving skills respectively were indicated as the most important motives for participating in sport. All of these items had a mean score of greater than 4, thus indicating they were seen by the athletes as being of relatively high importance.

The items added to the original Sport Participation Questionnaire (Gill et al, 1983) by the researcher were retained for this analysis. The highest ranked of these additional possible motives for sport participation was 'I want to improve/increase my mobility', which was ranked at 10 by the respondents, with a mean score of 3.85. The next highest ranked of the additional possible motives was "It gives me the opportunity to be recognised for what I can do, rather than what I can't do', which was ranked at 11 with a mean score of 3.82. The remainder of the additional items were ranked at 12, 13, 19, 21, 22, 27, 28 and 36 out of forty. The lowest ranked of the additional items was 'I want to be able to do something I did when I was able-bodied' which had a mean score of 2.71 and was ranked at 36.

Further to this analysis, participants were also asked to indicate which one of the forty sport participation reasons they considered to be the most important to them when it came to participating in sports. The findings of this question are shown in Table 3.

Table 3: Frequencies For Items Contained In The SPR Which Were Indicated By Respondents As Being The Most Important Reason For Participation.

Item		Frequency	% Total Sample
38	I like to have fun	30	22.1
34	I like the challenge	10	7.4
31	I want to be physically fit	10	7.4
4	I want people to see past my disability	9	6.6
33	I want to prove to myself that I am capable	8	5.9
36	I want to be able to do something I did when I was able-bodied	7	5.1
28	I want to improve/increase my mobility	7	5.1
26	I like to compete	6	4.4
24	It offers me the opportunity to be recognised for what I can do rather than what I can't do	5	3.7
9	I like the excitement	5	3.7
20	I like to get the exercise	4	2.9
15	I like to meet new friends	4	2.9
30	I want to go on to a higher level	3	2.2
11	It offers me the opportunity to be independent	3	2.2
7	I want to stay in shape	3	2.2
3	I like to win	3	2.2
2	I want to be with my friends	2	1.5
5	I want to get rid of energy	2	1.5
6	I like to travel	2	1.5
16	I like to do something I'm good at	2	1.5
21	It gives me the opportunity to prove that I can compete against others successfully	2	1.5
22	I like to have something to do	2	1.5
40	It gives me a chance to test myself against my own ideals	2	1.5
25	I like to get out of the house	1	0.7
23	I like the team spirit	1	0.7
8	I want to be percieved as an active member of society	1	0.7
18	I want to improve my wheelchair skills	1	0.7
1	I want to improve my wheelchair skills	1	0.7

From Table 3 it can be seen that the item most frequently cited as being the most important for participation is 'I like to have fun', which is also reflected in this item being ranked at number one in the mean rankings. 'I want to be physically fit' and 'I like the challenge' both received the same number of responses (10) to be the second most frequently cited reasons. The next most popular item was "I want people to see past my disability' (9 responses) - this was one of the additional items and was ranked at 22 in the means ranking. This was followed by another of the additional items, 'I want to prove to myself that I am capable' (8 responses). A further 24 of the 40 items contained in the SPR were indicated by participants as representing their most important motive for participating in sport of the items presented. These items received between 7 and 1 vote(s) each.

3.2 Research Question Two: Are there any empirically identifiable underlying patterns in the athletes' responses to the SPR?

In order to gain a better understanding of the motivational factors underlying athletes' participation in wheelchair sports, a factor analysis was performed on the athletes' responses to the SPR. The factor analysis took the form of a principal components analysis with an orthogonal varimax rotation. Missing values were excluded pairwise. The factor analysis revealed a 9 factor solution. This factor solution, with the items loading on to each factor and the factor loadings for each item, can be seen in Table 4.

Table 4: Factor Loadings From An Orthoganol Rotation on Nine Derived SPR Scales.

Q#	Question	Factor Loadings								
		I	II	III	IV	V	VI	VII	VIII	IX
24	It offers me the opportunity to be recognised for what I can do, rather than what I can't do	**.84**	.18	.05	.08	.07	-.04	.02	.05	.18
4	I want people to see past my disability	**.78**	.05	.10	.04	.13	.06	.08	.13	-.11
8	I want to be percieved as an active member of society	**.77**	.14	.09	.03	.12	.05	.14	.00	.16
11	It offers me the opportunity to be independent	**.77**	.01	.03	-.00	.05	.23	.05	-.10	.12
14	I want to prove to others that I am capable	**.64**	.12	.10	.04	.27	.21	.09	.02	.15
15	I like to meet new friends	**.58**	-.03	-.12	.47	.14	.12	.01	.39	.09
33	I want to prove to myself that I am capable	**.50**	.21	.20	-.04	.20	.38	.03	.07	.43
16	I like to do something I'm good at	**.49**	.38	.12	.05	.14	.12	.23	.22	.14
26	I like to compete	.02	**.84**	.09	.15	.11	.10	.02	.08	-.01
3	I like to win	.01	**.84**	-.02	.06	-.00	.05	.01	-.03	-.15
30	I want to go on to a higher level	.09	**.68**	.32	.17	.18	.28	-.05	.08	-.19
21	It gives me the opportunity to prove that I can compete against others successfully	.49	**.64**	.07	.14	.09	-.04	-.01	-.06	.06
34	I like the challenge	.11	**.59**	.34	-.02	.08	.23	.00	.13	.35
1	I want to improve my skills	.09	**.58**	.44	.13	.13	.30	.07	-.07	-.08
19	I like the rewards	.26	**.50**	.11	.13	.19	-.04	.16	.19	.09
31	I want to be physically fit	.08	.18	**.89**	.09	.03	.16	.10	.09	-.02
7	I want to stay in shape	.05	.30	**.85**	.10	.08	.04	.10	.06	-.02
20	I like to get the exercise	.07	.10	**.81**	.12	.04	.04	.16	.18	.19
28	I want to improve/increase my mobility	.38	-.02	**.53**	.22	.27	.42	.01	-.06	-.03
23	I like the team spirit	.10	.21	.05	**.84**	.08	.10	.05	.05	.13
10	I like the teamwork	.10	.02	.29	**.80**	.05	.07	.12	.14	.08
29	I like being on a team	-.03	.31	.13	**.77**	.24	.07	.06	.07	-.00

cont...

Table 4 cont.

Q#	Question	Factor Loading								
		I	II	III	IV	V	VI	VII	VIII	IX
32	I want to be popular	.27	.10	.10	.13	**.73**	-.00	.17	.18	.10
37	I want to gain status or recognition	.13	.43	.11	-.01	**.66**	.05	.12	.07	.15
27	I like to feel important	.31	.29	.11	.00	**.63**	-.03	.23	-.02	.15
35	I like the coaches or instructors	.08	.14	.04	.29	**.54**	.39	-.11	.14	.11
12	My parents or close friends want me to play	.36	.16	.06	.15	**.51**	.38	.23	.03	-.02
39	It offers me the opportunity to use good equipment	.14	.26	.01	.06	.24	**.65**	.09	.32	-.00
40	It gives me a chance to test myself against my own ideals	.22	.27	.20	-.01	-.23	**.57**	.06	.17	.26
13	I want to learn new skills	.30	.24	.37	.12	.06	**.52**	.12	-.00	.06
18	I want to improve my wheelchair skills	.09	.01	.38	.31	.03	**.51**	.32	-.06	-.05
5	I want to get rid of energy	.10	.07	.15	.08	.03	-.00	**.78**	.16	.09
36	I want to be able to do something I did when I was able-bodied	.03	.03	.04	-.02	.13	.23	**.65**	-.06	.05
17	I want to release tension	.30	.05	.21	.10	.22	-.05	**.63**	.09	.06
38	I like to have fun	.05	.07	.20	.09	.02	.16	-.02	**.73**	.23
2	I want to be with my friends	.35	-.12	-.08	.20	.25	.09	.22	**.63**	-.29
9	I like the excitement	.05	.39	.21	.12	.17	.03	.13	**.55**	.19
22	I like to have something to do	.27	-.10	.03	.14	.20	.07	.19	.16	**.71**
25	I like to get out of the house	.42	-.28	.01	.20	.32	.06	.10	.06	**.58**

After examining the items which loaded on to the nine factors, the factors which represent underlying patterns of responses for participation were given the following names:

Factor I - Competence (8 items)

Factor II - Achievement/Competition (7 items)

Factor III- Fitness (4 items)

Factor IV - Team Orientation (3 items)

Factor V - Status (5 items)

Factor VI - Skills (4 items)

Factor VII - Tension/Energy Release (3 items)

Factor VIII - Fun/Friendship (3 items)

Factor IX - Activity (2 items)

Factor I: Competence

The majority of items contained in this factor appear to relate to the athletes' desire for others to recognise their competence in the sporting arena, and wanting to prove their competence to themselves. The major reasons for participation which load on to this factor are: "It offers me the opportunity to be recognised for what I can do , rather than what I can't do"; "I want people to see past my disability"; "I want to be perceived as an active member of society"; "It offers me the opportunity to be independent"; "I want to prove to others that I am capable"; "I want to prove to myself that I am capable"; and "I like to do something I'm good at".

Also loading on to this factor is the item "I want to meet new friends". Possibly, meeting new friends is related to the other items in this factor in that it gives athletes a chance to display their competence at an activity, and to compare their competence with that of others.

Six of the 8 items included in this factor were not a part of the original Gill et al (1983) scale, but were included by the researcher in order to investigate the possibility of disability related issues being motives for sports participation.

Factor II: Achievement/Competition

Competition is an inherent part of sport, whether it involves competing against an individual opponent, an opposing team, or against oneself in order to improve one's performance at an activity. Factor II comprises 7 items, the majority of them being related to competition. These items are: "I like to compete"; "I want to go on to a higher level"; "It gives me the opportunity to prove that I can compete against others successfully"; and "I like the challenge". Factor II also contained items related to achievement, or the outcome of competition - "I like to win" and "I like the rewards"

Also contained in this factor, but not as directly related to competition as the items mentioned above, was the item "I want to improve my skills". Skill improvement is necessary in order for athletes to be more competitive and for them to move on to a higher level of competition. Moreover, skill improvement can also be viewed as an achievement.

Factor III: Fitness.

Participation in sports at any level requires some degree of cardiovascular fitness and muscle strength in order to perform the skills necessary for a particular sport and to sustain participation over a period of time. For disabled individuals, this fitness is also important for performing everyday tasks, as the disability may impede movement and co-ordination to such an extent that a task such as dressing oneself may take half an hour of concentrated effort and leave the individual physically exhausted when

completed. Thus, for disabled athletes, physical fitness is not only a requirement for sports participation, but also for the tasks of everyday living.

The 4 items contained within Factor III are related to physical fitness. Specifically, these items are: "I want to be physically fit"; "I want to stay in shape"; "I like to get the exercise"; and "I want to improve/increase my mobility".

Factor IV: Team.

For those who participate in team sports, it is important that athletes are able to get along with their team mates and enjoy interacting as part of a group in order for the team to work as a cohesive unit. The items in Factor IV refer to aspects of team participation. Items contained in Factor IV were: "I like the team spirit"; "I like the teamwork"; and "I like being on a team".

Factor V: Status.

It would appear that being viewed as popular and successful in the eyes of others are motives for sports participation. All of the items loading on to this factor were related to the opinions of others. Factor V contains the following items: "I want to be popular"; "I want to gain status or recognition"; "I like to feel important"; "I like the coaches or instructors"; and "My parents or close friends want me to play".

Although the item "I like the coaches or instructors" is not directly related to status, it could be implied that in liking one's coach, one would do one's best to please or impress him/her, thus influencing one's status in the coaches' views. Similarly, participating because one's parents or friends encourage it would suggest that the athlete is participating in order to please these people and prevent negative views which could result from non participation.

Factor VI: Skills.

The mastery of sport-specific skills is necessary in order to be able to fully participate in sporting activities, and in fact non-mastery can prove to be a particularly frustrating experience. Items loading heavily on to Factor VI were related to skill improvement. Included in this factor were the items "I want to learn new skills" and "I want to improve my wheelchair skills".

The item "It offers me the opportunity to use good equipment" was also included in this factor, which suggests that athletes consider good equipment necessary to the development and performance of skills. Another item included in this factor, but not directly related to skills is "It offers me the opportunity to test myself against my own ideals". It is possible that this item was included because athletes have ideal skill levels which they use to compare with their current skill level in order to gauge skill development progress.

Factor VII: Tension/Energy Release.

The inclusion of the items "I want to get rid of energy" and "I want to release tension" in this factor indicate that for athletes, sport is a means of releasing excess energy or taking out one's frustrations. The third item included in this factor was "I want to be able to do something I did when I was able-bodied".

Factor VIII: Fun/Friendship.

It would be hoped that individuals participate in sporting activities first and foremost because they enjoy the activity. The central theme in this factor is fun, with the items "I like to have fun" and "I like the excitement". Also loading on to this factor was "I want to be with my friends", suggesting that participating in sports with friends contributes to the fun aspect of the activity.

Factor IX: Activity.

The items contained in this final factor indicate that athletes like to participate in sport as a means of filling in spare time. This factor consisted of two items: "I like to have something to do" and "I like to get out of the house".

3.3 Chapter Summary

This chapter presented the results obtained from the study. First, the relative importance that athletes place on reasons for sport participation was investigated. Further, the items identified by respondents as being their single most important reason for participation in sports were also looked at. Next, the results of the factor analysis of the Sport Participation Reasons (SPR) questionnaire were reported. The results of this factor analysis revealed a nine factor solution, with the factors being labelled Competence, Achievement/Competition, Fitness, Team, Status, Skills, Tension/Energy Release, Fun/Friendship and Activity.

In the following chapter, the results of the study are discussed and conclusions are drawn as to the meaning of the results. There is also a discussion of the limitations of the study and the implications of the findings for practice and the directions for further research.

CHAPTER FOUR

DISCUSSION

Chapter four presents a summary of the research conducted for this study. The results are discussed as they relate to each of the research questions. Next, limitations of the study are reviewed, the results of the research are discussed as they relate to sport for the disabled, and finally, suggestions are made for future research in the area.

4.1 Summary of the Research

The purpose of the present study was to establish the motives of wheelchair disabled athletes for participating in physical activity. More specifically, the study sought to establish whether disabled athletes have any 'disability related' participation motives and if so, how important these motives were in relation to other motives for participation. The study sample consisted of one hundred and thirty six male and female wheelchair disabled individuals participating in a range of physical activities.

Each subject received a copy of the Sport Participation Reasons (SPR) and Background Information questionnaires with a newsletter distributed by ParaFed. The SPR questionnaire contained forty items representing possible motives for participating in physical activity. Respondents completed the questionnaires and returned them to the researcher in the Business Reply Envelope provided.

The means and standard deviations of the athletes' responses to the items contained in the SPR were calculated in order to establish the relative importance of each reason for participation. Athletes were also requested to

indicate which of the forty items was their single most important reason for participation and the frequency of responses for each item was calculated. A factor analysis was conducted on the athletes' responses to the SPR, resulting in a nine factor solution. After examining the items contained in each factor, the factors were given the following names: competence, achievement/competition, fitness, team orientation, status, skills, tension/energy release and activity.

The results of the study will now be discussed in light of the previous research.

4.2 The Study Sample

Previous research in the area of disabled sport participation motivation has targeted specific groups of athletes, for example, competitive wheelchair basketball and track and field athletes (Brasile, 1988a,b), elite wheelchair track and field athletes (Fung, 1992) and competitive wheelchair triathletes (Furst et al, 1993). The specific nature of the samples in these studies means that one must be cautious in making inferences regarding the sport participation motives of wheelchair disabled athletes whose sport or participation level has not been represented in the research.

The sample of the present study, however, has not been limited to a particular sport or level of participation, but rather, has involved one hundred and thirty six wheelchair disabled athletes participating in twenty-two different types of physical activity at levels ranging from recreational or novice right through to the elite international competitor. This range of subjects was not entirely intentional but rather, it was necessary in order to achieve a reasonable sample size because of the limited number of wheelchair disabled athletes participating in physical activity in New Zealand. However, that said,

the sample of the present study is unique in that it provides a general overview of the motives of wheelchair athletes participating in physical activity and is thus more generalisable to a wide range of wheelchair disabled athletes. Furthermore, this is the first study in the area to employ a New Zealand sample. As cross-cultural differences in the sport participation motives of wheelchair athletes have been observed (Fung, 1992), the present study may prove to be more useful to those involved in wheelchair sports in New Zealand (coaches, rehabilitation therapists, sports psychologists, administrators, and the athletes themselves) than have the results of previous studies which have employed overseas samples.

4.3 Research Question One: What is the relative importance respondents place on each reason for participation?

An analysis of the mean scores given by respondents for each item contained in the SPR revealed that the five most important sport participation motives for the disabled participants in this study were: having fun, being physically fit, getting exercise, staying in shape and challenge. These top five motives are similar to the top ranked motives in previous studies. However there are some differences.

Athletes in the present study placed less emphasis on social reasons for participation. The first social related motive to appear - "I like the teamwork" - is ranked at number fifteen. This is in contrast to the findings of Brasile (1988b) - "I enjoy the team interaction of the sport" was ranked number five by the disabled athletes in his study. For Fung (1992), the first equal motive of disabled Japanese females in this study was friendship, and for Dwyer (1992), athletes placed "Maintain and develop friendship" in fourth position. Finally, for Furst et al (1993), socialising was the fourth ranked motive of disabled triathletes.

Another difference between the findings of this and previous studies is that athletes in the present study placed less emphasis on skill development. Generally, the research with both disabled and able-bodied athletes has found skill improvement/development items to be ranked somewhere in the top three motives for participation (Brasile, 1988b, Martindale et al, 1990, Flood & Hellstedt, 1991, Fung, 1992, Dwyer, 1992). The item "I want to improve my skills" was ranked in sixth position from the responses given by athletes participating in this study - a considerably lower ranking than for similar items in previous research.

The emphasis in the top ranked motives in the present study appears to be on health and fitness motives, with three of the top five motives fitting in to this category. This finding concurs with earlier studies of both able-bodied and disabled athletes (Gill et al, 1983, Gould et al, 1985, Brasile, 1988a, b, Battista, 1990, Martindale et al, 1990, Flood & Hellstedt, 1991, Fung, 1992, Dwyer, 1992, Furst et al, 1993). However, in all of these previous studies only one fitness item has been ranked in the top five participation motives, compared with three items in the present study.

Although none of the additional 'disability' items appeared at the top of the motive rankings, neither were they right at the bottom of the rankings. The first of these items to appear in the rankings was "I want to improve/increase my mobility" which was ranked at number ten. Physical activity has been shown to contribute greatly to the mobility of the disabled, making daily tasks easier to perform (Guttmann, 1976b, Ryan et al, 1978, Stewart, 1981), and the appearance of this item in the top half of the rankings would suggest that disabled athletes are aware of the importance of physical activity for improved mobility. This item was followed by another of the additional items, "It offers

me the opportunity to be recognised for what I can do, rather than what I can't do", which was ranked in eleventh position. The placing of this item relatively high in the motive rankings lends support to the research of Sherrill (1985) and Hutzler (1990) which indicates that disabled athletes view sports as a means of focussing attention on their abilities rather than their disabilities.

The remaining additional items were ranked between twelfth and thirty-sixth position, as shown in Table 2, with the majority of these items appearing somewhere in the middle order. This suggests that disability-related issues such as social acceptance and demonstrating competence are participation motives for disabled athletes. It is interesting to note that all of the additional items were ranked above at least four of the original items of Gill et al (1983)- items which have been shown to be useful in establishing the sport participation motives of adult able-bodied athletes (Dwyer, 1992).

After rating each item contained in the SPR on a five point Likert scale, the study respondents were asked to go back and circle the number of the item which for them was the most important motive (of those listed) for participating in sport. The frequency with which each item was identified is shown in Table 3. The most commonly identified item was "I like to have fun" (thirty responses), which is not surprising as this item is placed at number one in the motive rankings. This was followed by "I like the challenge" and "I want to be physically fit" (each with ten responses), both of which are in the top five items in the mean rankings. The next four items most commonly identified as the respondents' most important motive however, are all additional disability items. Those items are: "I want people to see past my disability", "I want to prove to myself that I am capable", "I want to be able to do something I did when I was able-bodied" and "I want to

improve/increase my mobility". Of the twenty seven items which were identified by respondents as being their most important reason for participation, a further six of the additional disability questions were included. In all, of the one hundred and thirty three athletes who responded to this question, forty-three (32%) identified one of the additional disability items as being their most important reason for participation in physical activity. This finding brings further support to the thesis that disabled athletes may have disability related motives for participation in physical activity.

4.4 Research Question Two: Are there any empirically identifiable underlying patterns in the athletes' responses to the SPR?

The analysis conducted for this research question involved a factor analysis in the form of a principle components analysis with an orthogonal varimax rotation. Missing values were excluded pairwise. This analysis was consistent with the analyses of previous authors who have also employed the Gill et al (1983) Participation Motivation Questionnaire (Gill et al, 1983; Gould et al, 1985; Klint & Weiss, 1987; Dwyer, 1992).

The factor analysis established a nine factor solution and the derived factors were given labels based on the theme of the items contained within them:

Factor I - Competence

Factor II - Achievement/Competition

Factor III - Fitness

Factor IV - Team Orientation

Factor V - Status

Factor VI - Skills

Factor VII - Tension/Energy Release

Factor VIII - Fun/Friendship

Factor IX - Activity

It was found that the majority of the additional 'disability' items grouped together into one factor (Factor I), which was labelled competence, as most of the items contained in the factor were related to demonstrating competence, either to oneself or to others. The remainder of the additional items not loading on to Factor I were grouped in other factors containing items of a similar type. For example, the item 'I want to improve my wheelchair skills' loaded on to the skill factor (Factor VI) and the item 'I want to improve/increase my mobility' loaded on to the factor containing fitness related items (Factor III).

In order to establish whether the items taken from the Gill et al (1983) Participation Motivation Questionnaire were grouped together in this study in a similar manner to groupings in other studies, it was decided to compare the factors attained in this study with those of four other studies employing the PMQ (Gill et al, 1983) and the same factor analysis technique. Table 5 presents the factor loadings for this study and a further four studies.

Table 5: Items Comprising the Factors Extracted from the Gill, Gross and Huddleston (1983) Participation Motivation Questionnaire from Current and Previous Studies*.

Study	Factor								
	1	2	3	4	5	6	7	8	9
Current Study	4	1	7	10	12	13	5	2	22
	8	3	20	23	27	18	17	9	25
	11	19	28	29	32	40	36	38	
	14	21	31		35				
	15	26			37				
	16	30							
	24	34							
	33								
Gill, Gross and Huddleston (1983)	10	3	7	2	1	9	5	12	
	23	16	20	15	13	38	6	35	
	29	19	31	26	30		17	39	
		27		34			22		
		32					25		
		37							
Gould, Feltz and Weiss (1985)	10	3	7	2	1	9	5		
	23	16	20	15	13	26	17		
	29	19	31			34			
		27							
		30							
		32							
Cont . . .		37							

*Adapted from Dwyer (1992)

**Note: The item numbers given for all of the studies presented in this table are the numbers of the items as they are in the SPR employed in this study (see Appendix 1).

Table 5 cont.

Study	Factor								
	1	2	3	4	5	6	7	8	9
Klint and Weiss (1987)	10 23 29	3 16 19 27 32 37	7 20 31	2 12 15	1 13 30	9 26 38	5 17		
Dwyer (1992)	10 23 29	19 27 32 37	7 20 31	2 12 15	1 13 30	9 34 38			

From Table 5 it can be seen that there are a number of factors which appear to be very similar in all of the five studies. The factor containing items relating to team orientation is identical for all five of the studies. The only difference between the studies on this factor is the amount of variance that it accounts for - in previous studies this factor has emerged as factor one, indicating that it accounts for the greatest proportion of the variance. However, in the present study the team orientation factor was only the fourth factor to emerge.

The fitness factor is another factor which is nearly identical in all of the studies. Three items appear in all five of the studies and in all of the studies the fitness factor is factor three. However, there is one minor difference in the fitness factor of the present study in that it also contains one of the additional disability items - 'I want to improve/increase my mobility'.

A tension/energy release factor emerged in four of the five studies presented in Table 5 (Gill et al, 1983; Gould et al, 1985; Klint & Weiss, 1987; and the present study). This factor emerged as factor three in all four studies and in each study the factor comprises the same three items, the only difference being that in the present study the tension/energy release factor contains one further item - 'I want to be able to do something I did when I was able-bodied' - which is one of the additional disability items.

In the present study, status emerged as a separate factor (Factor 5), containing the items 'I like to feel important', I want to be popular' and 'I want to gain status or recognition'. In previous studies (Gill et al, 1983; Gould et al, 1985; Klint & Weiss, 1987; Dwyer, 1992) these status items were grouped in the same factor as the achievement items. The status factor in the present study also contained the items 'My parents or close friends want me to play' and 'I like

the coaches or instructors', suggesting that sport participation is viewed as raising one's status in the eyes of these people.

Unlike previous studies, where the achievement items were grouped in the same factor as the status items, in the present study achievement items were grouped with the competition items to form an achievement/competition factor (Factor 2). This said however, it should be noted that like the status items, the same achievement items group together in this study as in previous studies, the difference being that they are linked with competition rather than status.

Finally, the major difference between this and previous studies is the emergence of a competence factor (Factor I), containing the majority of the additional disability items. This factor provides further confirmation of the finding of Sherrill (1985) and Hutzler (1990) that disabled athletes participate in sports in order to prove their competence to both themselves and others.

It would appear then that the factors derived in the present study are similar in structure to those derived in previous research (Gill et al, 1983; Gould et al, 1985; Klint & Weiss, 1987; Dwyer, 1992) which has employed the Gill et al (1983) Participation Motivation Questionnaire. The additional 'disability' items did not appear to disrupt the factor structures, but rather, enhanced them, suggesting that the Sport Participation Reasons scale may be a promising instrument for the evaluation of the sport participation motives of disabled athletes.

4.5 Limitations of the Study

The first and the most obvious limitation of the present study is that it is reliant on self-report data. As such, the athletes' responses were limited to those which were presented in the SPR, and those items may not have been an adequate, or indeed accurate representation of athletes' motives for participating in physical activity. Further, questionnaires of this type assume that the respondents are aware of what is important to them when it comes to sport participation.

A further limitation of the study is the fact that it employed a mail- out questionnaire and thus the researcher had no control over the setting in which the questionnaire was completed. This means that there was no homogeneity of context - one respondent may have just won an important sporting event, another may have performed well below expectations, and still others may have completed the questionnaire in their off-season and thus not participated in their sport for some time. Situations such as these may possibly have had some bearing on the way in which respondents viewed some of the items contained in the SPR. Hence, the results of the study are limited to an assessment of motives at one particular point in time.

Finally, the disability-related questions may not be an accurate measure of disability related incentives for participation. Several of the items, such as "I want to prove to myself that I am capable", "I want to prove to others that I am capable", "It gives me the opportunity to compete against others successfully "and "I want to be perceived as an active member of society" may apply as much to able-bodied athletes as they do to disabled athletes.

4.6 Implications of the Study for Disabled Sports

The most important implication of this study would appear to be that, although disabled athletes are motivated to participate in sports for similar reasons to able-bodied athletes, they also have participation motives which are unique to disabled athletes. The finding that the additional disability related items were rated by the disabled respondents as being reasonably important to them (more important than items which have been found to be motives for able-bodied athletes) would suggests that disability issues must be considered when promoting sport to the disabled. Sport should be presented to the newly disabled as not only a means of developing the fitness which is so vital for daily living, but also as a means of coping with their disability and proving their abilities, both to themselves and to others.

Because of the diverse range of subjects used in this study, representing twenty- two sport activities and a wide range of participation levels, the results have a wider application than those of previous studies which have concentrated on a specific sport or participation level. The results, therefore, will be useful to rehabilitation staff and sport administrators for designing a wide range of sporting and physical activity programs. These people should be able to use the results of the present study to aid them in designing programs for the disabled in such a manner that they are able to attract a greater number of individuals into the programs and reduce the number of individuals who drop out.

4.7 Considerations for Future Research

The results of the current study suggest that disabled athletes may have disability- related incentives for sport participation. It should be noted, however, that this research is only exploratory and that the additional

disability questions require further investigation as it is possible that they are not a true measure of disability related incentives for sports participation.

Future research should attempt to refine the disability incentives and confirm with other samples that they are participation motives for disabled athletes. Consideration should also be given to the relationship of the disability related incentives to certain aspects of disability such as age of onset of disability and the type (congenital versus traumatic) and severity of disability. Finally, the Sport Participation Reasons questionnaire may prove to be useful for assessing the sport participation motives of other disability groups such as the blind and the deaf and it is suggested that this possibility be investigated.

4.8 Conclusion

This study lends further support to the findings of previous researchers (for example, Gill et al, 1983; Gould et al, 1985; Klint & Weiss, 1987; Brasile, 1988a,b; Fung, 1992; Dwyer, 1992) that sport participation motivation is a multi dimensional phenomenon and athletes have multiple incentives for sport participation. Like their able-bodied counterparts, disabled athletes are motivated to participate in physical activity for reasons related to fitness, status, competition, achievement, fun and friendship, skill development, team orientation and tension and energy release. Furthermore, the results of the present study also indicate that wheelchair athletes have sport participation motives which are related to disability issues and it appears that this facet of disabled sport participation motivation is worthy of future consideration.

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❒❒❒

BACKGROUND INFORMATION

The purpose of this questionnaire is to obtain some background information about you and your involvement in wheelchair sports. Please ensure you answer all the questions which are relevant to you by following the instructions carefully and placing a tick [✓] in the appropriate boxes.

ALL INFORMATION GATHERED FROM THIS QUESTIONNAIRE WILL REMAIN STRICTLY CONFIDENTIAL.

Office use only

❒❒ Q1. What is the **main** sport you participate in? (Please tick only **one** box).

- tennis ❒
- basketball ❒
- swimming ❒
- road racing ❒
- track and field events ❒
- rugby ❒
- archery ❒
- shooting ❒
- skiing ❒
- sailing ❒
- weight/power lifting ❒
- other (please specify) ..... ❒

Office use only

❒ ❒ Q2. What is your highest level of participation in this sport?-

- international ❒
- national ❒
- competitive ❒
- recreational ❒

❒ ❒ Q3. How long have you been participating in this sport?

_____ years.

❒ ❒ Q4. Approximately how often do you participate in / train for this sport?

- less than once a month ❒
- 1 - 3 times a month ❒
- once a week ❒
- 2 - 4 times a week ❒
- 5 or more times a week ❒

❒ ❒ Q5. Do you participate in any other sports?

- yes ❒
- no ❒

IF YOU ANSWERED NO TO THIS QUESTION PLEASE GO TO Q7.

Office use only

❒ ❒ Q6. What other sports do you participate in?

- tennis ❒
- basketball ❒
- swimming ❒
- road racing ❒
- track and field events ❒
- rugby ❒
- archery ❒
- sailing ❒
- weight/power lifting ❒
- other (please specify) ..... ❒

❒ ❒ Q7. Are there any other sports which you would like to participate in but are unable to?

- yes ❒
- no ❒

IF YOU ANSWERED 'NO' TO THIS QUESTION PLEASE GO TO Q10

Office use only

❒ ❒ Q8. Which sport[s] are you unable to participate in?

- tennis ❒
- basketball ❒
- swimming ❒
- road racing ❒
- track and field events ❒
- rugby ❒
- archery ❒
- sailing ❒
- weight/power lifting ❒
- other (please specify)..... ❒

❒ ❒ Q9. What are the barriers to your participation in this sport[s]?

- availability of a suitable wheelchair ❒
- availability of suitable equipment ❒
- availability of physical assistance ❒
- lack of transport ❒
- costs are too high ❒
- the sport is not available in my area ❒
- the sport has not been adapted for wheelchair participation ❒

Office use only

❒❒ **Q10.** How did you become involved in wheelchair sports?

- a family member(s) encouraged me ❒
- through friends who were already participating ❒
- through Kiwi Able ❒
- through the Crippled Childrens Society (C.C.S.) ❒
- through Burwood Hospital ❒
- through the Canterbury Paraplegic Association ❒
- other (please specify) ..... ❒

❒❒ **Q11.** Is your disability :

- congenital (go to Q12) ❒
- traumatic (go to Q13) ❒
- I am able-bodied (go to Q22) ❒
- other (please specify) ..... ❒

❒❒ **Q12.** What is the nature of your disability?

- Spina Bifida ❒
- Multiple Sclerosis ❒
- Muscular Dystrophy ❒
- Cerebal Palsy ❒
- Polio ❒
- Congenital deformity of the limbs (present at birth) ❒
- Other (please specify) ..... ❒

PLEASE GO TO Q 20

Office use only

❒❒ **Q13.** What caused the onset of your disability?

- Car/Motorbike accident ❒
- Work-related accident ❒
- Sporting injury ❒
- Other (please specify) ..... ❒

❒❒ **Q14.** Is your traumatic disability the result of :

- spinal cord injury ❒
- head injury ❒
- amputation ❒
- cerebal palsy ❒
- other (please specify)..... ❒

❒❒ **Q15.** What is the level of your spinal cord injury?

- quadriplegia (C6 and above) ❒
- high paraplegia (T1 - T7) ❒
- medium paraplegia (T8 - L1) ❒
- low paraplegia (L2 and below) ❒
- other (please specify) ..... ❒

❒❒ **Q16.** Did you participate in any sports before the onset of your disability?

- yes ❒
- no ❒

IF YOU ANSWERED NO TO THIS QUESTION PLEASE GO TO Q20

Office use only

❒❒ **Q17.** What was the **main** sport you participated in? (Please tick only <u>one</u> box)

- tennis ❒
- basketball ❒
- swimming ❒
- netball ❒
- athletics ❒
- rugby ❒
- soccer ❒
- hockey ❒
- squash ❒
- weight training ❒
- other (please specify)..... ❒

❒❒ **Q18.** What was the highest level at which you participated in this sport?

- international ❒
- national ❒
- competitive ❒
- recreational ❒

❒❒ **Q19.** How long (approximately) were you involved in this sport?

- less than one year ❒
- 1 - 4 years ❒
- 5 years or more ❒

❒❒ **Q20.** How old were you at the onset of your disability?

_____ years.

Office use only

❒❒ **Q21.** How old were you when you began using a wheelchair?

_____ years.

❒❒ **Q22.** How old are you?

_____ years.

❒❒ **Q23.** Please indicate your sex.

- Female ❒
- Male ❒

❒❒ **Q24.** Which of the following cultural groups do you identify with?

- Pakeha / New Zealand European ❒
- Maori ❒
- Pacific Islander ❒
- Asian ❒
- Other (please specify) ..... ❒

THANK-YOU FOR COMPLETING THIS SECTION - PLEASE CONTINUE ON TO THE SPORT PARTICIPATON REASONS SECTION

❒❒❒

SPORT PARTICIPATION REASONS

Below are some reasons people give for participating in sports. Read each item carefully and decide if that item describes a reason why **you** participate in your sport. The numbers 1, 2, 3, 4, or 5 each stand for a level of importance of your participation. To indicate your level of importance for each reason, circle the appropriate number beneath each statement.

Before you begin, please answer the question below **before** you look through the rest of the questionnaire.

What is the one most important reason why you participate in your sport?

. . . . . .
. . . . . .
. . . . . .
. . . . . .

Office use only

❒ 1. I want to improve my skills

1	2	3	4	5
not at all important		somewhat important		very important

❒ 2. I want to be with my friends

1	2	3	4	5
not at all important		somewhat important		very important

Office use only

❒ 3. I like to win

1	2	3	4	5
not at all important		somewhat important		very important

❒ 4. I want people to see past my disability

1	2	3	4	5
not at all important		somewhat important		very important

❒ 5. I want to get rid of energy

1	2	3	4	5
not at all important		somewhat important		very important

❒ 6. I like to travel

1	2	3	4	5
not at all important		somewhat important		very important

❒ 7. I want to stay in shape

1	2	3	4	5
not at all important		somewhat important		very important

Office use
only

❐ 8. I want to be perceived as an active member of society

1	2	3	4	5
not at all important		somewhat important		very important

❐ 9. I like the excitement

1	2	3	4	5
not at all important		somewhat important		very important

❐ 10. I like the teamwork

1	2	3	4	5
not at all important		somewhat important		very important

❐ 11. It offers me the opportunity to be independent

1	2	3	4	5
not at all important		somewhat important		very important

❐ 12. My parents or close friends want me to play

1	2	3	4	5
not at all important		somewhat important		very important

Office use only

❒ 13. I want to learn new skills

1	2	3	4	5
not at all important		somewhat important		very important

❒ 14. I want to prove to others that I am capable

1	2	3	4	5
not at all important		somewhat important		very important

❒ 15. I like to meet new friends

1	2	3	4	5
not at all important		somewhat important		very important

❒ 16. I like to do something I'm good at

1	2	3	4	5
not at all important		somewhat important		very important

❒ 17. I want to release tension

1	2	3	4	5
not at all important		somewhat important		very important

Office use only

❒ 18. I want to improve my wheelchair skills

1	2	3	4	5
not at all important		somewhat important		very important

❒ 19. I like the rewards

1	2	3	4	5
not at all important		somewhat important		very important

❒ 20. I like to get the exercise

1	2	3	4	5
not at all important		somewhat important		very important

❒ 21. It gives me the opportunity to prove I can compete against others successfully

1	2	3	4	5
not at all important		somewhat important		very important

❒ 22. I like to have something to do

1	2	3	4	5
not at all important		somewhat important		very important

Office use only

❒ 23. I like the team spirit

1	2	3	4	5
not at all important		somewhat important		very important

❒ 24. It offers me the opportunity to be recognised for what I **can** do, rather than what I can't do

1	2	3	4	5
not at all important		somewhat important		very important

❒ 25. I like to get out of the house

1	2	3	4	5
not at all important		somewhat important		very important

❒ 26. I like to compete

1	2	3	4	5
not at all important		somewhat important		very important

❒ 27. I like to feel important

1	2	3	4	5
not at all important		somewhat important		very important

Office use only

❒ 28. I want to improve / increase my mobility

1	2	3	4	5
not at all important		somewhat important		very important

❒ 29. I like being on a team

1	2	3	4	5
not at all important		somewhat important		very important

❒ 30. I want to go on to a higher level

1	2	3	4	5
not at all important		somewhat important		very important

❒ 31. I want to be physically fit

1	2	3	4	5
not at all important		somewhat important		very important

❒ 32. I want to be popular

1	2	3	4	5
not at all important		somewhat important		very important

Office use only

❒ 33. I want to prove to myself that I am capable

1	2	3	4	5
not at all important		somewhat important		very important

❒ 34. I like the challenge

1	2	3	4	5
not at all important		somewhat important		very important

❒ 35. I like the coaches or instructors

1	2	3	4	5
not at all important		somewhat important		very important

❒ 36. I want to be able to do something I did when I was able-bodied

1	2	3	4	5
not at all important		somewhat important		very important

❒ 37. I want to gain status or recognition

1	2	3	4	5
not at all important		somewhat important		very important

Office use only

❐ 38. I like to have fun

1	2	3	4	5
not at all important		somewhat important		very important

❐ 39. It offers me the opportunity to use good equipment

1	2	3	4	5
not at all important		somewhat important		very important

❐ 40. It gives me a chance to test myself against my own ideals

1	2	3	4	5
not at all important		somewhat important		very important

From the reasons listed above, go back and circle the number of the one that is the most important for you.

Are there any other reasons why you participate in your sport , which have not been included in this list? Please list them in the space provided below. Please feel free to add any additional comments you may wish to make.

.....
.....
.....
.....
.....
.....

THANK-YOU FOR YOUR CO-OPERATION IN COMPLETIING THIS QUESTIONNAIRE

APPENDIX 3

Department of Psychology
University of Canterbury Private Bag 4800
Christchurch New Zealand
Telephone: 03-366 7001
Fax: 03-364 2181

IF YOU ARE AN ATHLETE WHO PARTICIPATES IN WHEELCHAIR SPORTS, PLEASE READ THE FOLLOWING LETTER

May 1994

Dear Athlete

I am a Masters student at the University of Canterbury. As part of my degree I am required to undertake a major piece of research. I have chosen to investigate the reasons that wheelchair athletes give for participating in sport.

The knowledge of motives for sports participation is important for coaches, service providers, physiotherapists, sports psychologists and individual athletes. They are able to use this information to ensure that those already participating get the most out of their sport and also, to design sports programs in such a way that those not already participating are more likely to get involved. Thus, by filling out the enclosed questionnaires (it should only take 20 minutes of your time) and returning them in the freepost envelope provided, you will not only be helping yourself but also those who haven't yet become involved in wheelchair sports.

This study has been approved by the University of Canterbury Ethics Committee. All information gathered will be kept entirely confidential and will be seen only by myself and my supervisor - it will in no way be identified with your name.

If you have any questions regarding the study please don't hesitate to contact me on 03 366 7001 extn 7179.

Your co-operation in participating in this study will be most appreciated.

Yours sincerely

Catherine Thomson